ORAL MEDICATIONS

CLASS	GENERIC NAME STRENGTH	TRADE NAME	DOSAGE[1] (mg) (total daily)	COMMENTS *Regular testing of blood glucose and A1C is recommended to assess medication effect.*
First Generation Sulfonylureas[2]	tolbutamide 500 mg	Orinase	500-3000	All sulfonylureas may cause hypoglycemia. Least potent. Short half-life, useful in renal disease.
	chlorpropamide 100, 250 mg	Diabenese	100-500	Longest duration. Caution with elders with renal disease. Alcohol may cause Antabuse-like reaction. Chlorpropamide can cause hyponatremia.
	tolazamide 100, 250, 500 mg	Tolinase	100-1000	Essentially no advantage over tolbutamide.
	acetohexamide 250, 500 mg	Dymelor	250-1500	Essentially no advantage over tolbutamide.
Second Generation Sulfonylureas[2]	glipizide 5, 10 mg	Glucotrol	2.5-40	Take on an empty stomach. Lowest incidence of hypoglycemia. No Antabuse-like reaction. Dosage twice daily.
	glipizide extended release 2.5, 5, 10 mg	Glucotrol XL	5-20	Extended-release dosage form of glipizide, allows the therapeutic benefit to last for 24 hours. Low toxicity. Useful in renal dysfunction. Dosage once daily. Consider splitting large doses twice daily.
	glipizide/metformin 2.5/250 mg, 2.5/500 mg 5/500 mg	Metaglip	2.5/250-20/2000	See entry for Glucovance below.
	glyburide 1.25, 2.5, 5 mg	Micronase, Diabeta	1.25-20	No Antabuse-like reaction. Low toxicity. Dosage once daily with breakfast or the first main meal.
	glyburide (micronized) 1.5, 3, 6 mg	Glynase PresTab	0.75-12	No advantage over the nonmicronized products. Dosage once daily with breakfast or the first main meal.
	glyburide/metformin 1.25/250 mg 2.5/500 mg 5/500 mg	Glucovance	1.25/250 – 20/2000	Sulfonylurea/metformin combinations can be used as initial or second line therapy. Titrate slowly. Administer with food. May cause hypoglycemia. Major side effects are GI symptoms. Lactic acidosis may occur, therefore it is contraindicated in patients with renal insufficiency, chronic metabolic acidosis, or CHF. Temporarily discontinue for surgery or for radiology procedures involving contrast media.
	glimepiride 1, 2, 4 mg	Amaryl	1-8	Dosage once daily.
Meglitinides	repaglinide 0.5, 1, 2 mg	Prandin	1-16	Similar mechanism of action with the sulfonylureas (insulinotropic). May be used as monotherapy or in combination with metformin or a thiazolidinedione. Must be taken before meals, within 15 to 30 minutes of the meal. Patients who skip or add a meal should be instructed to skip or add a dose for that meal. May cause hypoglycemia.
	nateglinide 60, 120 mg	Starlix	180-360	Similar mechanism of action with the sulfonylureas (insulinotropic). Indicated as primary treatment, either as monotherapy or in combination with metformin. Use with caution in chronic liver disease. Dosage 3 times daily, 1 to 30 minutes before meals. May cause hypoglycemia. Patients who skip a meal should also skip that dose of nateglinide to reduce the risk of hypoglycemia. Should not be added to regimens of patients who have not been adequately controlled by glyburide or other insulin secretagogues, nor should these patients be switched to nateglinide.

(continued on reverse)

ORAL MEDICATIONS

CLASS	GENERIC NAME STRENGTH	TRADE NAME	DOSAGE[1] (mg) (total daily)	COMMENTS *Regular testing of blood glucose and A1C is recommended to assess medication effect.*
Alpha Glucosidase Inhibitors	acarbose 25, 50, 100 mg	Precose	25-300	Delays absorption of starch after a meal. Take with first bite of food. When used as a monotherapy, does not cause hypoglycemia. Most common side effect is excessive flatulence, diarrhea and abdominal pain. Initiate medication slowly to decrease GI effects. Contraindicated in DKA, inflammatory bowel disease, colonic ulceration or partial intestinal obstruction. If hypoglycemia occurs in patients who are being treated with either Precose or Glyset as well as either insulin or sulfonylureas, it MUST be treated with glucose, not sucrose or complex carbohydrates.
	miglitol 25, 50, 100 mg	Glyset	25-300	
Biguanides	metformin 500, 850, 1000 mg	Glucophage	1000-2550	Decreases hepatic glucose production and increases insulin sensitivity, not insulin production; therefore, hypoglycemia is not a side effect if metformin is used as monotherapy. Take with food to lessen gastrointestinal side effects. Do not use with impaired renal or hepatic function. D/C for surgical and IV contrast dye procedures.
	metformin extended release 500 mg	Glucophage XR	500-2000	
	glyburide/metformin 1.25/250 mg, 2.5/500 mg, 5/500 mg, 20/2000 mg	Glucovance	1.25/250-20/2000	See entry under second generation sulfonylureas.
	glipizide/metformin 2.5/250 mg, 2.5/500 mg 5/500 mg	Metaglip	2.5/250-20/2000	See entry under second generation sulfonylureas.
	rosiglitizone/metformin 1/500 mg, 2/500 mg, 4/500 mg	Avandamet	4/1000-8/2000	See entry under thiazolidinediones.
Thiazolidinediones[3]	rosiglitazone 2, 4, 8 mg	Avandia	4-8	Increases peripheral and hepatic sensitivity to insulin. Both Actos and Avandia are approved for use as single agents or in combination with insulin, metformin, or sulfonylureas. Neither Actos nor Avandia causes hypoglycemia when used as monotherapy. May be administered without regard to food. Monitor for symptoms and signs of congestive heart failure at 6 weeks and 3 months. **Precaution:** Use with caution in the presence of hepatic disease. Do not use with patients who have discontinued troglitazone (Rezulin)[3] therapy due to jaundice or hepatic disease. Monitor baseline liver function when initiating therapy, then test every 2 months for one year, then periodically as clinically indicated. May cause anovulatory premenopausal women to resume ovulation. In-vitro studies do not suggest any clinically relevant effect on the metabolism of oral contraceptives (OC). However, because of past experience with another thiazolidinedione,[3] caution should be exercised with patients receiving Actos or Avandia and an OC. Thiazolidinediones may increase HDL and LDL levels. The long-term effects are not known.
	rosiglitizone/metformin 1/500 mg, 2/500 mg, 4/500 mg	Avandamet	4/1000-8/2000	
	pioglitazone 15, 30, 45 mg	Actos	15-45	

[1] Therapeutic failure occurs when the maximum dose of the oral agent has been reached and glycemic goals have not been attained.

[2] Sulfonylureas act by stimulating endogenous insulin production by the pancreas. Proper selection, dosages, and patient education are important to avoid hypoglycemic episodes. The most common side effects, aside from hypoglycemia, are GI disturbances, which tend to be dose related and disappear when dosage is decreased. Sulfonylureas have been associated with rare occurrences of cholestatic jaundice and hepatitis; if either condition occurs, the sulfonylurea should be discontinued. All sulfonylureas are contraindicated in DKA.

[3] Troglitazone (Rezulin), was removed from the market in March 2000 by the FDA after being linked to liver failure, liver transplants, and deaths.